CONTENTS OF VOLUME 8

PART 1 MAY 1960

Unsteady flow through an underdrained earth dam. By ROGER J. M. DE WIEST *page* 1

Forced mixing in boundary layers. By G. B. SCHUBAUER and W. G. SPANGENBERG 10

A note on the velocity profile and longitudinal mixing in a broad open channel. By T. H. ELLISON 33

A line source on an interface between two media. By V. M. PAPADOPOULOS 41

Sound emission from jets at high subsonic velocities. By ERIK MOLLÖ-CHRISTENSEN and RODDAM NARASIMHA 49

Steady longitudinal motion of a cylinder in a conducting fluid. By HIDENORI HASIMOTO 61

On the motion of a non-conducting body through a perfectly conducting fluid. By K. STEWARTSON 82

The oscillating plate problem in magnetohydrodynamics. By W. I. AXFORD 97

A note on the breakdown of continuity in the motion of a compressible fluid. By D. C. PACK 103

On a singular point in the Newtonian theory of hypersonic flow. By N. C. FREEMAN 109

The melting of ice in a hot humid stream of air. By DONALD L. TURCOTTE 123

Stability of parallel flow in a parallel magnetic field at small magnetic Reynolds numbers. By P. G. DRAZIN 130

The development of turbulent boundary layers with negligible wall stress. By A. A. TOWNSEND 143

REVIEWS

Advanced Mechanics of Fluids 156

Aerodynamik des Flugzeuges. Band 1 158

Journal of Nuclear Energy. Part C: Plasma Physics—Accelerators—Thermonuclear Research 160

PART 2 JUNE 1960

Dynamics of a dissociating gas. Part. 2. Quasi-equilibrium transfer theory. By M. J. LIGHTHILL 161

On the tendency towards hexagonal cells in steady convection. By ENOK PALM 183

An improved perturbation theory for shock waves propagating through non-uniform regions. By M. P. Friedman *page* 193

The forces on wing-fuselage combinations in supersonic flow. By Joseph H. Clarke 210

Laminar convection in uniformly heated vertical pipes. By B. R. Morton 227

On the collapse of an empty cavity in water. By C. Hunter 241

Multiple shock compression using a piston of finite weight. By D. F. T. Winter 264

On the effect of the molecular diffusivity in turbulent diffusion. By P. G. Saffman 273

The compressible viscous heat-conducting vortex. By Leslie M. Mack 284

Mass transport in the boundary layer at a free oscillating surface. By M. S. Longuet-Higgins 293

The slow motion of a magnetized sphere in a conducting medium. By James R. Barthel and Paul S. Lykoudis 307

Reviews

Fluid Mechanics 315

Hypersonic Flow Theory 318

Part 3 July 1960

The stability of a stratified flow. By William Paul Graebel 321

Calculations of the motion of non-uniform shock waves. By Jan Rościszewski 337

Velocity and enthalpy distributions in the compressible turbulent boundary layer on a flat plate. By D. A. Spence 368

Flow between torsionally oscillating disks. By S. Rosenblat 388

An experimental investigation of the effect of ejecting a coolant gas at the nose of a bluff body. By C. H. E. Warren 400

On Kelvin's ship-wave pattern. By F. Ursell 418

Magnetohydrodynamic flow of a viscous fluid past a sphere. By Richard van Blerkom 432

Standing surface waves of finite amplitude. By Iradj Tadjbakhsh and Joseph B. Keller 442

Exact solutions of the magnetohydrodynamic equations. By W. E. Williams 452

Shock-wave structure in binary mixtures of chemically inert perfect gases. By Frederick S. Sherman 465

PART 4 AUGUST 1960

Gravity waves in a stratified fluid. By CHIA-SHUN YIH *page* 481

Piston theory applied to strong shocks and unsteady flow. By JOSEPH L. RAYMOND 509

Mixing of dense fluid in a turbulent pipe flow. Part 1. Overall description of the flow. By T. H. ELLISON and J. S. TURNER 514

Mixing of dense fluid in a turbulent pipe flow. Part 2. Dependence of transfer coefficients on local stability. By T. H. ELLISON and J. S. TURNER 529

The effect of turbulence and magnetic field on electron density fluctuations in the ionosphere. By I. D. HOWELLS 545

Changes in the form of short gravity waves on long waves and tidal currents. By M. S. LONGUET-HIGGINS and R. W. STEWART 565

Hypersonic flow over axially symmetric spiked bodies. By D. J. MAULL 584

The hydrodynamic stability of a thin film of liquid in uniform shearing motion. By JOHN W. MILES 593

Natural convection above fires. By M. P. MURGAI and H. W. EMMONS 611

Propagation of waves of finite amplitude along a duct of non-uniform cross-section. By JAN ROŚCISZEWSKI 625

REVIEWS

Fluid Dynamics 634

Hydrodynamics 634

Turbulent Transfer in the Lower Atmosphere 636

INDEX TO VOLUME 8 639